OCTOBER 1946

FIREMEN

FIFTIETH ANNIVERSARY YEAR • NATIONAL FIRE PROTECTION ASSOCIATION

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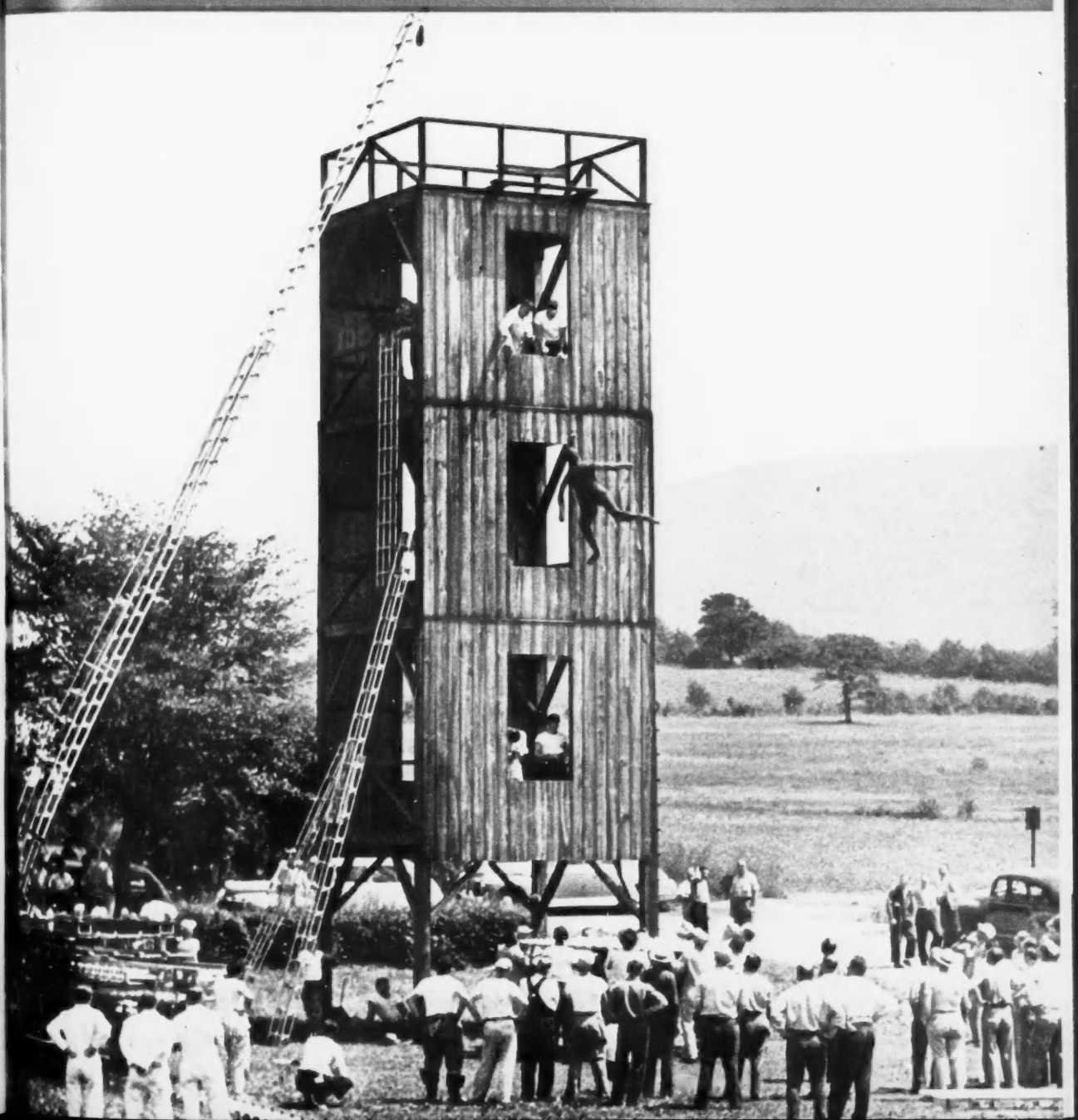

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PERFORMANCE COUNTS!

Firemen

Volume 13 Number 10

WARREN Y. KIMBALL, EDITOR
ANNE BAILEY KELLER, ASSOCIATE EDITOR
CHARLES S. MORGAN, ADVERTISING MANAGER

Published monthly for the fire service members of the

NATIONAL FIRE PROTECTION ASSOCIATION

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A VOLUNTARY NON-PROFIT ORGANIZATION

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THE United States fire loss for the month of August totaled $40,019,000, according to the estimates of the National Board of Fire Underwriters. This figure represented an increase of 17 percent over the August 1945 total, but a 2 percent drop from July 1946.

Losses for the twelve months ending with August were $532,111,000, as compared with $449,671,000 for the year ending August 1945.

Canadian fire losses, dropping off sharply in August, totaled $3,708,660, as against $8,202,725 of August 1945, according to estimates of the *Monetary Times*.

FIRE apparatus designers tell us that most of the valid suggestions they receive for improving fire equipment come from members of the fire service. This is the way it should be.

One veteran fireman in a large department asks, "Why should our entire piece of apparatus be put out of service every time the truck motor needs service or repairs? We have to transfer all our tools and appliances to an old spare truck that is in doubtful condition. Why shouldn't the fire department follow the practice of large trucking concerns of having several spare truck tractors all ready to back under a trailer-type truck? This could be done without putting the fire company out of service. Barring accidents, the fire fighting trailer, be it ladder truck or hose wagon, would outlast the firemen themselves but the equipment would always have the latest motive power out in front."

Another suggestion often advanced by firemen is that the trailer pumper be developed into a valuable peacetime adjunct to the fire service. A good large-capacity trailer-pump could be carried behind a combination hose and ladder truck. The trailer pump with one or two men could be dropped off at the hydrant or water hole and the hose would be laid to the fire by the main truck unit. Thus, all needed tools and appliances would be available on the truck, close to the fire. For such a trailer unit to be of adequate size and mobility, it is likely that the wartime two-wheel trailer would have to be supplanted by a four-wheel trailer. It is likely that the main apparatus would continue to carry a pump to supply booster and first aid streams and perhaps to boost pressure in long lines of hose.

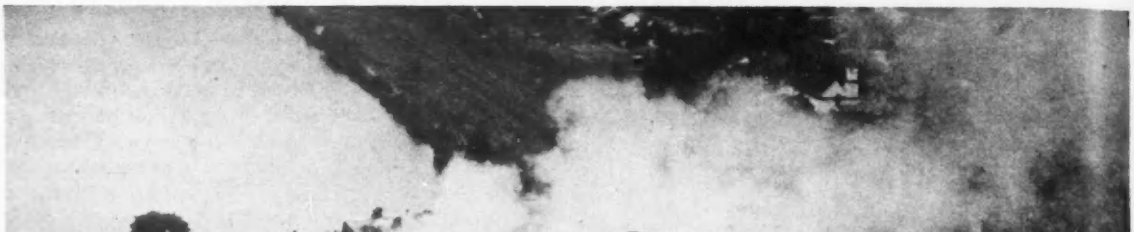
Perhaps some visionaries will mentally combine the two foregoing suggestions into a train of fire fighting vehicles towed by an atomic-powered tractor, and having a personnel van, hose truck, ladder unit, and for a caboose the trailer pump. If any of these ideas have merit, no doubt they will be adopted by fire fighters and apparatus designers of a coming generation. The present-day fire fighters will be sufficiently realistic to recall the adage, "don't put all your eggs in one basket," or behind one tractor. After all, the oldtimers hitched the horse to the fire wagon because they tired of the sport of pulling apparatus to fires by ropes.

THE cover picture shows the drill tower at Lewistown, Pa., being used during the Eighth Annual Pennsylvania Fire School. A dummy being thrown from the tower gave firemen at the school practice in holding a life net.

Many departments do not permit their men to jump more than one story during practice drills because life nets are recognized as a last resort measure where the chance of injury must be accepted in order to save life. Using a dummy in practice gives the rescue crew experience in following a falling body with the net and catching the body with the proper stance; elbows bent and close to body, net chest high, and left foot forward. Persons jumping into a net are supposed to land with their buttocks in the center of the net, feet slightly elevated. All too often at fires they strike feet first or strike the rim of the net.

It may be noted from the picture that the dummy is not "jumping" or falling in the recommended fashion. This fact gives the firemen holding the net experience in catching falling bodies that do not land in approved form. Most jumping into nets at demonstrations is done by experts who make it look a lot easier than would be the case of a novice who is suddenly faced by the choice of flames from behind or a long drop into the net. It has been well stated, "The first step is the big one."

The photo above shows firemen putting out an airplane fire at the Pennsylvania Fire School.



FIGHTING A FACTORY FIRE

Destruction of Southern Cotton Mill Emphasizes Important Lessons for Mill Brigades and Fire Departments

ON JULY 3, fire completely destroyed the Langley Manufacturing Company's mill at Langley, S. C., at a loss estimated between three and four million dollars. Since this was a plant of mill construction, completely equipped with automatic sprinklers, with good water supplies from a 50,000-gallon tank and a 1,000-gallon fire pump, the question may well be asked how such destruction could occur.

A bolt of lightning struck near the mill about seven o'clock in the evening About eight o'clock the watchman, in passing through the third story of No. 3 Mill, where approximately 1,000 bales of cotton were stored, found a small area on one bale afire. He beat it out with his hands, used a pail of water, and felt sure the fire was extinguished.

Two rounds later, about ten o'clock, he found the room full of smoke and saw the glow of flame. He rang the mill bell and employees came running from the village. One of them started the fire pump. Another went into the third story of No. 1, found the fire door to No. 3 closed, flames licking out below the door, and two sprinklers operating in No. 1 near the door.

At this time flames were also coming from the third story windows of No. 3 so that it should have been obvious that the sprinklers in No. 3 were not operating. The control valve was in the first story. Someone should have examined the valve and opened it. The watchman should have been trained so that he would have examined this valve following the early fire. After the plant had been burned, the valve was found closed. Investigation disclosed that it had been shut some time before to make minor repairs and not reopened.

Employees laid two lines of hose from the hydrant near No. 8, down the alley between the buildings. One stream was directed into No. 3. The second line burst, one section was replaced, and when ready this stream was also directed into No. 3. A third line was laid from the hydrant near No. 22 and the stream also thrown into No. 3. Experienced fire fighters probably would have selected a location for their hose lines to retard the spread of the fire rather than to direct them into an area of intense fire where they could accomplish little.

Here, at 10:30, was a raging fire and the critical question — could the fire have been kept from involving other buildings? Between No. 3 and No. 1 was a fire wall in the third story, with a closed fire door. The sprinklers opposite the door in No. 1 had operated and presumably kept back the fire as long as they had water. Apparently fire had been burning under the bales in the third story of No. 3, because at about 10:15 the fire was seen in the second story and it is reported that floors collapsed about 10:35. Probably at this time also the sprinkler main in the ceiling of the first floor broke on the supply side of the closed valve.

Breaking of the pipe bled the system so that sprinklers in No. 1 had little or no water, allowing the fire to spread rapidly in both the second and third stories (there being no fire wall in the first and second stories). At this point, certain division valves in the yard could have been closed to stop the waste and maintain the supply for sprinklers in much of the remainder of the plant, but this was not done.

Calls for outside help had gone out promptly. A pumper from Aiken, ten miles away, arrived about 10:30 and took suction from a yard hydrant, using two streams in the alley between

Nos. 2 and 6, keeping the fire from passing across the alley. About the same time a mill pumper came from Graniteville, three miles away, arriving about 10:35, properly took suction from the pond and used two streams at the northeast end of the plant. It is likely that the work of this pumper deserves a good share of credit for ultimately saving Buildings 9, 12, 13, 14 and 15.

About 11 a pumper arrived from Augusta and took suction from another yard hydrant, using streams in No. 1 where fire was spreading fast, so that little could be accomplished. A second Augusta pumper arrived at 11:15, took suction from the pond, laid a long line and used the stream in the alley between Nos. 2 and 6.

It is not good practice to connect pumpers to yard hydrants. Here two of the pumpers took the delivery of the fire pump, instead of supplying additional water by drawing from the pond. If the proper valves had been closed to stop the wastage from the broken pipe, and if pumpers had not drawn from yard hydrants, a large number of sprinklers could have been supplied by the fire pump, and these aided by effectively applied hose streams could well have produced a quite different outcome.

It was soon apparent that the eastern half of the plant was doomed. A successful stand nevertheless was being made with hose streams concentrated in the alley, with a favorable prospect of saving the western group of buildings. At about 11:50, however, an insulator at power transformers ruptured, cutting off power and stopping the fire pump. This might then have made little difference if all the pumpers had been drawing from the pond, but the two pumpers at yard hydrants lost their suction when the fire pump stopped, so they had to shift to the pond, and in this interval the fire leaped the alley and involved Nos. 2 and 20. Quick destruction of the west group followed.

Several lessons of special interest to fire departments are brought out by this destructive fire.

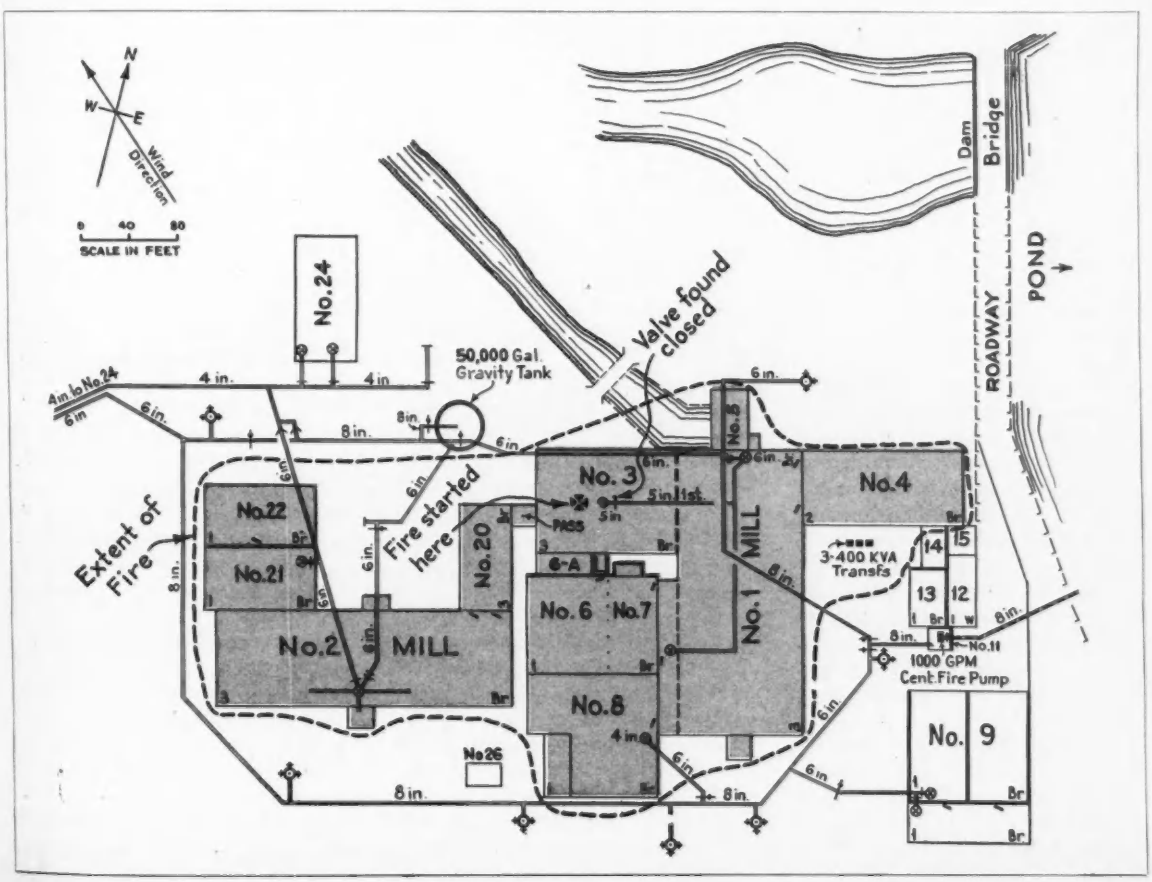
(1) On arriving at a fire that appears to be well established in a sprinklered property, first inspect sprinkler valves, and if any are found shut, open them. Observe the effect closely so that the valve may again be closed if it is obvious that sprinkler pipes are already broken, or the system so overtaxed that the supply should be conserved for the defense of areas not so seriously involved.

(2) Similarly, if sprinkler pipes are broken by collapse of floors while fighting a fire, be equally alert to close necessary valves in order to prevent wastage of water and to keep sprinklers in adjoining buildings supplied.

(3) Insofar as possible, take pumper supplies from nearby street hydrants, or, preferably, open bodies of water, rather than yard hydrants. Plant water supplies are frequently of limited capacity and will do the most good if they are reserved for sprinklers.

(4) Find and safeguard the critical places where fire will spread. It is more effective to use water to prevent spread than to pour it into the heart of an intense fire that is obviously out of control. Fire doors need to be backed

Continued on page 22



A Forum about Chimney Fires

This is another session of the Fire Department Instructors' Forum, conducted by Lieutenant John A. Pearson, drillmaster of the Brookline, Mass., Fire Department and NFPA member, together with a group of fellow fire department instructors who have chosen FIREMEN magazine as their medium for exchange of information.

HERE we are again, seated at the forum table. You may remember that our forum on "Fighting That Gasoline Tank Fire" appeared in the May FIREMAN. This month, chimneys, chimney fires, and the attendant dangers and precautions are under discussion.

As a general rule, property owners neglect the important periodic cleaning and checking of chimneys, no matter how diligently they may keep other portions of their buildings in good repair. Annual servicing of chimneys would bring the same results that the proper servicing of all other structural details does — efficient and safe operation. Also, it is sad but true that many chimneys have been constructed without proper flue linings and may readily transmit heat or fire to combustible portions of the building.

Captain Belcastro, have you an idea why chimney servicing might be neglected?

Captain Belcastro: Yes. On buildings with pitched roofs, the average property owner has not the available ladder or ladders to reach the top of the chimney, or he may lack confidence and skill in climbing up there. Therefore he trusts to luck that nothing will happen.

Lieutenant Pearson: What do you think, Lieutenant Martin?

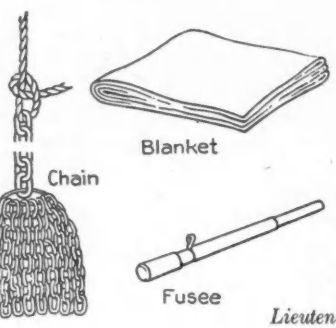
Lieutenant Martin: False economy plays an important part. Many persons feel that as they have never had a chimney fire why spend good money to clean and inspect the flues.

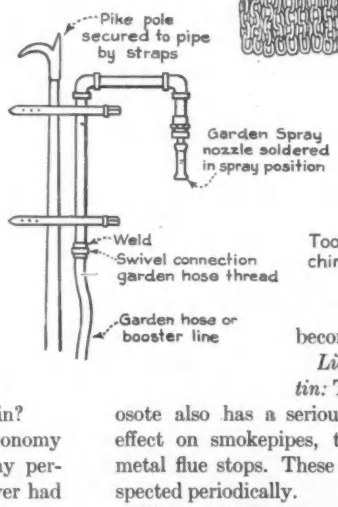
Lieutenant Oresteen: Ignorance of the dangers caused by such fires could be called a reason for neglect. Then there is another type of person who says, "John Smith had a chimney fire last week and the fire department did a swell job on his."

Lieutenant Pearson: I believe that an educational program through the local newspapers, along with instructions on safe methods of cleaning and inspecting chimneys, would cut down our fire losses due to chimney fires.

Captain, what causes a chimney fire?

Captain Belcastro: The burning of soft coal, wood, and paper in furnaces or other heating appliances causes layers of soot to build up within the chimney. Wood in particular forms deposits of creosote. Soot is the result of incomplete combustion. This condition is more aggravated where the dampers are partially closed and the cooling of the smoke takes place in the chimney. When heat and draft conditions are right, the soot and creosote become ignited.




Pike pole secured to pipe by straps
Garden Spray nozzle soldered in spray position
Weld
Swivel connection garden hose thread
Garden hose or booster line

Tools used on chimney fires

Lieutenant Martin: This same creosote also has a seriously corroding effect on smokepipes, thimbles, and metal flue stops. These should be inspected periodically.

Lieutenant Oresteen: Gas and oil burning devices seldom cause chimney fires. This type of fuel does not emit large volumes of soot. Where there is evidence of a black coating of soot, it is likely to be faulty installation, poor adjustment, or the wrong type of fuel oil burned.

Lieutenant Pearson: What recommendations would you suggest to a person asking advice on how to clean a chimney?

Lieutenant Martin: I would first suggest that an expert chimney cleaner be employed who would use modern vacuum equipment without any visible dirt accumulation.

Captain Belcastro: Where professional cleaners are not available, a common method used is to tie an automobile tire skid chain to a long rope, lowering it a short distance down the chimney flue and by working the rope up and down against the sides of the chimney, dislodge the soot and scale. After a section has been completed, lower the chain down and repeat the operation until the chain has reached the bottom of the chimney. A piece of fir tree, weighted brush or bundle of rags is sometimes used in place of the chain with equal effect. Following this, the clean-out door at the base of the chimney should be opened and all the fallen soot removed. Where there is no clean-out door and large quantities of soot have been dislodged, it might be necessary to remove a couple of bricks to get at the soot. In this case instructions should be given that this opening be properly resealed to prevent sparks from entering the basement.

Lieutenant Oresteen: The use of chemicals by other than experts to remove soot from chimneys is not generally recommended. Many of these chimney powders consist of sodium chloride, which is common salt. Salt is not effective in removing soot from chimneys.

Other powders contain zinc oxide, potassium chlorate, or other oxidizing agents. The application of these agents to soot produces excessively high temperatures within the chimney walls and may ignite combustible material close to the outer wall of the chimney.

Burning particles may be carried up the chimney and fall on combustible roofs, gutters, and adjacent yards. The use of such oxidizing materials by private persons without fire department or other expert supervision should be frowned upon, due to the attendant fire hazards.

Lieutenant Pearson: What would be the procedure in extinguishing a moderate chimney fire in a flat roof, three-story apartment building?

Lieutenant Martin: I would have two men go to the roof of the building with a hauling rope. Lower the rope to the ground, have the pump operator tie the booster line to the rope and raise to the roof. All combustible material on

the roof, such as a clothes drying yard, should be wet down to prevent ignition from sparks.

All adjacent roofs should also be checked, including gutters, valleys, and points where sparks may lodge.

A man should be detailed to patrol the grounds in the vicinity and watch where falling sparks may land.

Captain Belcastro: Simultaneously with the roof detail, men should be detailed to check the chimney from the roof to the basement floor. If there is an open attic, the chimney should be inspected for open joints, loose bricks, or cracks where sparks or fire might communicate with any combustible material.

Where the chimney is enclosed behind plaster walls or partitions, the walls should be inspected for hot spots. These can be located by observing the discoloration of wall paper or feeling with the hands.

All unused chimney openings should be examined for defective metal flue stops or openings plugged with paper or other combustible material. In some instances these openings are covered only by wallpaper.

Lieutenant Oresteen: All flue openings and open fireplaces should be protected to prevent damage from falling soot, smoke, or sooty water. In the case of an open fireplace, the entire opening should be covered with a canvas or rubber cover to prevent gases or falling soot from entering the room.

Captain Belcastro: On small chimney fires, the use of flares or chimney powders are effective to a certain degree. The powder should be scattered upon the furnace or stove fire, the fumes of which tend to smother the burning soot within the chimney. In the case of an open fireplace, the powder is scattered on the fire at that point. Care must be taken that a tight cover is maintained at fireplace openings to prevent gases from entering the room.

Lieutenant Martin: Should there be stubborn spots of fire within the chimney, evidenced by sparks still emitting from the top of the chimney, the ball and chain may be necessary. This appliance is lowered a short distance down the chimney and scraped against the chimney walls, dislodging the remaining sparks. This operation is repeated at intervals until the base of the chimney is reached.

Lieutenant Oresteen: All fallen soot should be removed from the base of the chimney and also the smoke pipe cleaned out, as in many instances there is considerable burning soot remaining at these points.

Flames from the chimney fire spread and involved the rest of the house.

Captain Belcastro: On larger or more stubborn fires it might be necessary to resort to the use of water within the chimney. Caution must be practiced when using water, as the chimney walls will be superheated from the fire and the cold water, if in sizable quantity, may crack the lining of the chimney. Water in the form of spray will extinguish sparks and fire.

Some fire departments have a garden hose nozzle soldered to a fine spray position that may be supplied by a connection to the tip of the booster hose nozzle. This will extinguish chimney fires without danger of cracking flue linings or causing appreciable water damage below. In some instances the garden nozzle is attached to a pipe with two 90° angles so that it may be hung over a chimney eliminating the dirty and dangerous job of getting a hose line to the top of the chimney.

Lieutenant Pearson: What special precautions should be made before leaving the building?

Lieutenant Martin: A careful check should be made of the entire length of the chimney to assure that no fire has communicated from the chimney to any part of the building. The roof and gutters, not only in the fire building but also in adjacent property, should be inspected for fire from falling sparks.

Lieutenant Pearson: Proper checking and cleaning of chimneys may prevent many losses of life and property. An average annual fire loss of $17,000,000 could have been averted through the servicing of these chimneys in the same manner as an annual clean-up.

Another Method of Extinguishing Chimney Fires

Dear Editor:

I had the privilege recently to talk with a call member of the Concord, N. H., Fire Department, who is also the janitor in charge of heating plants of several of our mercantile buildings.

He stated that in two or three of the buildings under his supervision the chimney conditions during the course of the year developed to rather serious proportions and that a previous janitor had had many chimney fires.

This man, however, claimed that in the buildings he always kept a small pile of wet ashes, and in several cases where chimney fires had started, that throwing the ashes on the fire not only deadened the fire, but that the steam that developed from the moisture in the ashes extinguished the fire.

This is rather an unusual case, and while it most certainly does not replace the necessity of cleaning a chimney, it might be worthy of note as an emergency method of extinguishment.

A. C. Hudson, *Secretary*
N. H. Board of Underwriters

A Commonsense Plan for Rural Fire Protection

Reprinted from **Our Paper,** June 1946
Grain Dealers National Mutual Fire Insurance Company

IT HAS been reported previously in *Our Paper* that the Rock Falls, Ill., Fire Department (NFPA member) agreed to assist at a fire in Normandy, Ill., *providing there was water available and that their fee would be paid.* To some it may be surprising that any fire department — particularly one in a predominantly rural community — would hesitate upon receiving a call for assistance. But the reason behind their answer indicates a new idea in fire department response and a more economical use of expensive apparatus for every mile and minute it is in service.

The Rock Falls department is a "heads up" outfit and operates on a business-like basis; its viewpoint in the Normandy fire and other similar cases is entirely justifiable. In the first place, there is absolutely nothing to be gained by having a pumper at a fire if no water is available for pumping. Secondly, their pumper represented a considerable investment of somebody's money and so why shouldn't its use be charged for?

For a number of years Rock Falls had a department with just one piece of equipment. It is a volunteer department, although the driver and the chief are on a paid basis. Naturally, as is the case in many similar situations, the townspeople did not feel their property should be jeopardized by allowing their one piece of apparatus to answer rural calls.

But a few years ago a solution to the problem appeared when the Illinois legislature authorized the formation of rural fire districts. Soon thereafter a fire district was organized to be serviced by the Rock Falls department. A piece of apparatus particularly adapted to rural fire fighting was purchased at a cost of $7,000. This investment was funded and is being gradually liquidated. It is, of course, available for use in Rock Falls when occasion demands. By this arrangement, both the city and the fire district mutually benefit — the one by having the additional piece of equipment available at no cost, the other by having trained firemen available on call.

To make sure of instant response in case of a fire on his property, the rural property owner or tenant signs an agreement to guarantee payment of $60 for the first hour after call and $50 for each additional hour thereafter. At the same time he furnishes the fire department with complete information concerning the location of his property, route thereto from Rock Falls, nature and location of available water supplies, and certain information relative to the applicant's insurance — particularly as to the amount carried under the fire department clause.

Upon receipt and verification of that information, the chief assigns the property a number. The property owner is furnished with two cards, both of which bear this number, a small card to be hung near the property owner's telephone to facilitate the making of a call to the fire department, the other — a large card — to be posted prominently at the entrance to the owner's farm or on his building, to assist in quick identification by the firemen.

Most of the information relative to the property is placed on a 6 x 9 record card which is kept on file at the fire station. On the reverse of the card is a map of the fire district on which the location of the property in question is prominently indicated. Upon receiving a call it requires but a moment to take the card from the file. With this, anyone riding with the driver, regardless of unfamiliarity with the locality, can unerringly direct the apparatus to the scene of the fire.

That is a business-like way to provide rural fire protection — certainly a far cry from the "by guess and by God" methods with which so many rural communities are all too familiar. That

Hang This Card Up

Rural Fire Service Card

IN CASE OF FIRE **Phone Main 300**
AND GIVE THE NUMBER ON THIS CARD

No._____

This Number Will Always Stay With the Property

ROCK FALLS FIRE DEPARTMENT SERVICE

Above
This card is furnished the subscriber to fire department service.

The number on this card corresponds to that on the data card kept at the fire station. A larger card bearing this number is posted at the entrance to the farm. By using the assigned number rather than name of property owner or tenant, mistakes due to excitement, misunderstanding, or poor phone connections are avoided.

Below
Data card of the Rock Falls, Ill., Fire Department, contains information for quick reference when a call is received from a rural subscriber. A card of this kind for each farm or other property under protection of the department is on file at the fire station.

OWNER:	FARM NO.	TENANT:
Address	Township	R. F. D.
Telephone	Telephone	

LOCATION and ROUTE

ENGINEER'S DATA

Use_____
Reservoir _____ Gals. _____ Ft.
Cistern _____ Gals. _____ Ft.
River _____ Ft.
Creek _____ Ft.
Spring Branch _____ Ft.
Stock Tank _____ Gals _____ Ft.

INSURED $_____ A

FOR ADDITIONAL HELP PHONE

Sterling Fire Dept.	Phone No. 125
Dixon Fire Dept.	Phone No. 16
Tampico Fire Dept.	Phone No. 72
Walnut Fire Dept.	Phone No. L-951
Prophetstown Fire Dept.	Phone No 264
Amboy Fire Dept.	Phone No. 150

kind of protection is worth paying for.

Illinois is by no means an exception in the provision of legal means whereby rural fire protection facilities may be provided on a sound basis. In fact, most states have enacted such legislation. But although hundreds of communities have taken the necessary steps and have secured the benefits of good protection they are still in the minority. The movement was gaining rapid headway when the war came along and almost entirely shut off the supply of equipment, but now that the equipment manufacturers are again able to accept orders there is no doubt that the protection of rural areas will proceed apace.

In the formation of rural fire protection organizations the support of country elevator operators should be enlisted. Certainly no class of property owners would stand to benefit more by the extension of fire protection services.

• • •

Fire Prevention Week, October 6-12, marks the seventy-fifth anniversary of the Great Chicago Fire and appropriate ceremonies have been planned in Chicago for observation of the event.

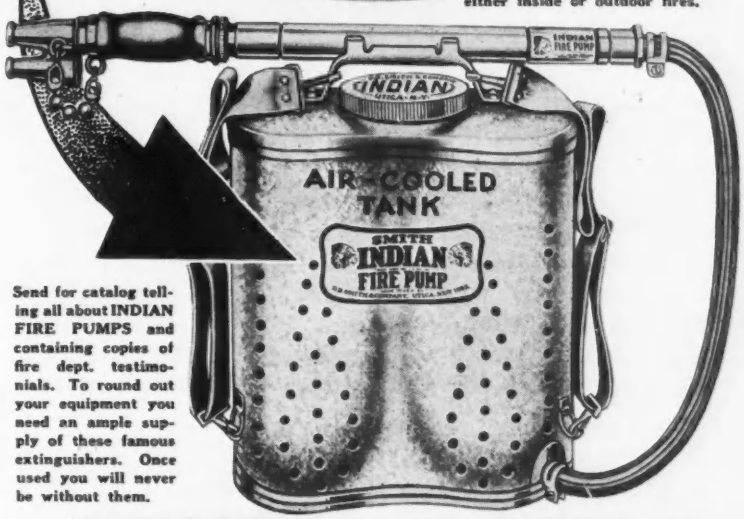
Members of the Fire Prevention Show Sub-Committee include, l. to r., Chief Frank McAuliffe, Chief of Patrols and member of the NFPA Committee on Salvaging Operations; Chief Anthony J. Mullaney, member of the NFPA Board of Directors and the Firemen's Training Committee; Chairman Stanley Fraser, Chicago, Merchandise Mart official; and Elmer Reske, Cook County Inspection Bureau.

Ohio Law and Rural Fire Protection

A BOOKLET entitled *Legal Aspects of Rural Fire Protection in Ohio*, prepared under the auspices of the Ohio Rural Fire Protection Committee, is being distributed by State Fire Marshal Harry J. Callan, Wyandotte Building, Columbus 15, Ohio. This 36-page publication brings together the various laws and regulations affecting organization and operation of fire departments in the Buckeye State.

INDIAN FIRE PUMPS ARE THE FIREMEN'S BEST FRIEND!

Using only clear water and portable on the back, INDIAN FIRE PUMPS have won the high esteem of firemen all over the U. S. They are the fastest, most economical way to put out over 70% of all your calls... either inside or outdoor fires.



Send for catalog telling all about INDIAN FIRE PUMPS and containing copies of fire dept. testimonials. To round out your equipment you need an ample supply of these famous extinguishers. Once used you will never be without them.

D. B. SMITH & CO., 411 Main St., UTICA, N.Y.

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Hercules Equipment & Rubber Co. 845 Brannan St., San Francisco, Cal.
Mill & Mine Supply Co. 2700 4th Ave. So., Seattle, Wash.
Bingham & Hobbs Equip. Co. Ltd. 396 W. 5th Ave., Vancouver, B. C.
Fred E. Barnett Co. 2005 S.E. 8th Ave., Portland, Oregon
Fred E. Barnett Co. 600 Spring St., Klamath Falls, Ore.
Fred E. Barnett Co. Broadway and Harris St., Eureka, Cal.
Roy G. Davis Co. 617 E. 3rd St., Los Angeles, Cal.

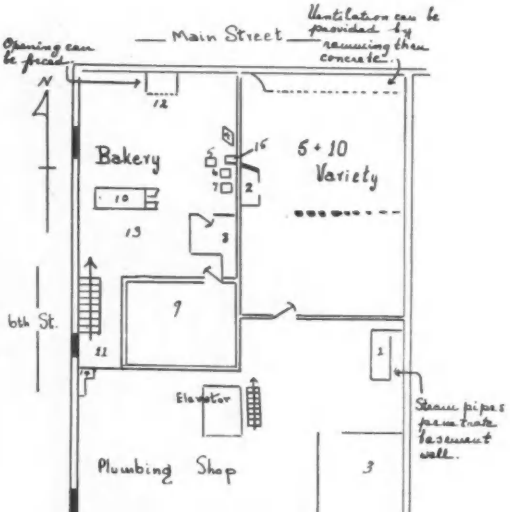
Canadian Agents

Duke Equipment Co. 297 Duke St., Montreal, Que.

Iowa Volunteer Department Maps Store Basements

As reported by Robert C. Byrus, Fire Protection Engineer

Engineering Extension Service
Ames, Iowa



1 Heating plant, steam heats three business buildings.
2 Wood - partitioned toilet.
3 Coal bin.
4 Refrigeration compressor.
5 Furnace — not used.
6 Steam boiler.
7 Water softener.
8 Wood - partitioned shower.
9 Storage beneath oven.
10 Flour elevator.
11 Coal bin—not used.
12 Flour storage.
13 Storage.
14 Electric service panel.
15 Chimney—not used.

IT took only a glance, as the fire truck rounded the corner, to tell the Sac City, Iowa, volunteer firemen that the fire had not yet reached major proportions and that more than likely it had its origin in the basement.

Entrance to the basement was made through an outside door that opened inward. Firemen wearing gas masks entered through the dense, heavy smoke in search of the seat of the fire, but intervening partitions prevented examination of the entire basement area. Frantic search at first failed to disclose the means of entrance into the concealed portion where the fire was located. Then it was found — a small scuttle hole that was so located that the basement entrance door covered it completely when opened. The fire was quickly extinguished and the area ventilated. The fire loss was minor.

On returning to the fire station, Chief W. L. Phillips and the volunteer firemen rehashed their operations in their effort to acquire maximum profit from this object lesson. It was immediately apparent that knowledge of the door positions could have been the deciding factor between prompt control and a major loss. At the next regular meeting of the fire department it was decided to make a complete survey of the basements under every store, club, church, hotel and mercantile building in town. These were to be faithfully reproduced in map form and carried on the first truck out so reference could be made thereto at any time need dictated.

Since all thirty-six volunteer firemen in the Sac City Fire Department work during the day, it was decided to make the surveys on Saturday nights when stores were open and firemen could have access under normal conditions. Firemen visited each establishment and made an accurate sketch of the basement, inserting thereon sources of ignition and all factors that could affect fire control.

Detailed attention was paid to gas meters and shut-offs, light meters and control switch, furnaces and heating plants, doors, stairways, coal bins, refrigerator compressors, nature and method of storage, locations and fire-resistive ratings of partitions, elevator shafts, fuel tanks, locations where entrance could be forced.

At the regular Monday evening practice sessions, each establishment was reproduced on the blackboard. Discussion brought out the fire control tactics offering the greatest possibility

FOR GOOD TEAMWORK . . .

Whether it's winning a football championship, a world series, or fighting fire — teamwork is often the deciding factor.

In a Fire Engine, good teamwork depends on proper balance between fire pump and motor.

Hale insists on this "balance" . . . a factor of safety providing plenty of reserve in volume and pressure when the going gets tough.

In the pump, Hale impellers, volutes, drive unit and every other part, work as a smooth, powerful team to beat down your fire losses.

When you specify a Hale Fire Pump for your apparatus you strengthen your fire-fighting team all along the line.

Write today for up-to-date information on Hale Fire Pumps . . . built in all standard capacities.

FIRE PUMPS HALE CONSHOHOCKEN PA

HALE
FIRE PUMP COMPANY
Conshohocken, Pa.

of success, together with recommendations to owners to reduce fire probability and alterations that would simplify control. These recommendations resulted in eliminating many fire hazards.

Sketches were reproduced in a permanently bound book capable of being carried on the fire truck. Features of particular importance were marked in red to be readily distinguished. It is planned to keep the book up to date by periodic visits.

Rope Testing and Inspection

A LARGE fire department has recently requested information regarding periodical tests of life lines and hose rope carried on apparatus. It appears that very little has been written on this important subject since the article, "Making Rope Last Longer," appeared in *Volunteer Firemen*, December 1943.

One of the largest manufacturers of high grade rope advises that the only satisfactory test that can be conducted by the average fire department without equipment is a rigid inspection of the condition of the rope, guarding against possible acid damage and broken fibers. This company advises that where there is doubt as to the condition of the rope, it should be examined by a qualified rope testing laboratory operated by a rope manufacturer or by an educational institution.

Probably the chief dangers to rope in fire service are the possibilities of acid damage, so-called dry rot due to exposure to dampness, and breaking or fraying of fibers due to sharp bends in the use of the rope.

A fire department rope that has been in service for some time should be periodically examined. While the proper examination of old rope depends to a great degree on experience with and knowledge of rope, there are a few suggestions that could be carried out by anyone. First, look for cuts or surface abrasions, either of which should be readily seen as the full length of rope is carefully examined. Next inspect the rope for acid damage. While this is infrequent in ordinary usage, strong acids, such as sulfuric as used in fire department chemical extinguishers, will ruin any rope. Any unusual discoloration along the rope indicates possible acid damage and need for further examination.

Continued on page 22

WHEREVER YOU FIND
LIFESAVING AT ITS BEST

The E & J
RESUSCITATOR
INHALATOR
and
ASPIRATOR

There are important reasons why so many fire departments, hospitals and industrials have purchased additional E & J Resuscitators after successful experience with their first unit. These automatic breathing machines are built to include vital life saving features not found in other equipment. A comparison of other equipment and methods by your department will quickly reveal why the vast majority of fire departments have chosen the E & J. We invite your thorough investigation.

E & J MANUFACTURING CO.
GLENDALE, CALIFORNIA
Pioneers and Specialists in Mechanical Artificial Respiration

Drexel Bldg. Philadelphia | 17 E. 42nd St. New York | 2144 N. Springfield Ave. Chicago | 581 Boylston St. Boston
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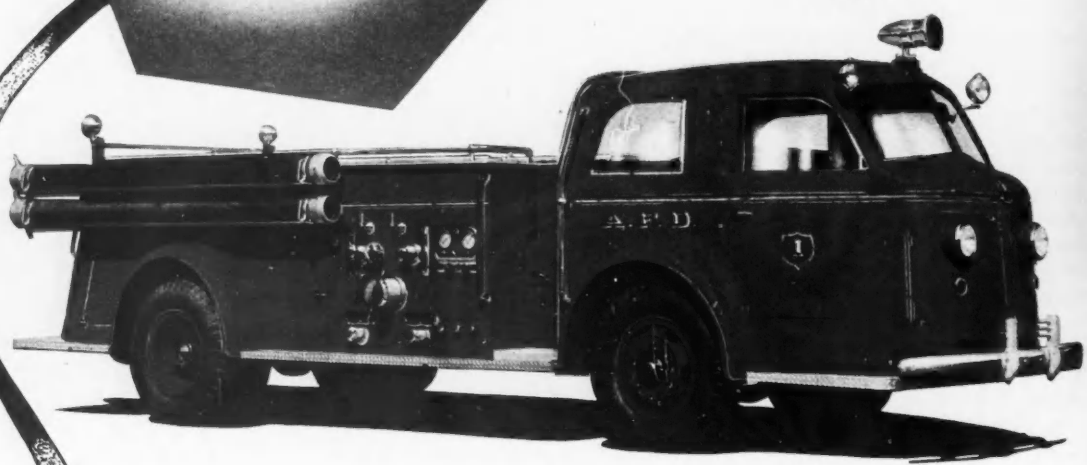
ASSURES YOU OF MAXIMUM EQUIPMENT STORAGE SPACE



Five large compartments, four of them weather-proof, provide quick accessibility to all your equipment.

More and better storage space, larger capacity hose body, bigger water tank, and wide side steps for equipment mounting, means a maximum of utility in the new CAB-AHEAD-OF-ENGINE pumpers.

WRITE TODAY FOR FURTHER DETAILS

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LA FRANCE FIRE ENGINE-FOAMITE LIMITED

TORONTO, 9, ONTARIO, CANADA

The
ALL-WEATHER

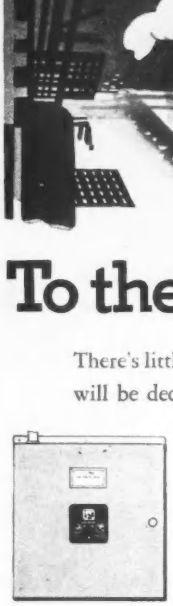
TRADE MARK REG. U. S. PAT. OFF.

Write for an American-LaFrance-Foamite salesman to show you samples before placing your next order for Fire Hose

AMERICAN-LAFRANCE-FOAMITE Corporation
ELMIRA · NEW YORK · U.S.A.

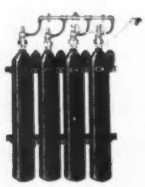
To the Rescue of Industry

There's little reason to expect that the record of fire losses to industry will be decreased this year. But foresighted men are beginning to realize that modern fire protection is a must in modern industry. They are taking steps now to prevent fires and minimize damage to materials, with subsequent shutdowns.



C-O-Two combined automatic smoke detecting and fire extinguishing systems are engineered for your specific hazards. C-O-Two smoke detectors are not dependent upon heat for actuation. Smoke alone operates the C-O-Two detector. Fires are killed when they start with dry, sub-zero, non-damaging carbon dioxide. Systems with built-in piping provide modern protection for vaults and storage spaces, spray booths, bake ovens, dip-tanks and electrical equipment. C-O-Two portables with the famous Squeez-Grip valve, fast, mobile, wheeled units and hose systems all employ carbon dioxide, the fastest non-damaging extinguishing agent. If you'd like to know more about C-O-Two write for information.

C-O-Two is listed by the Underwriters' Laboratories; fully approved by Factory Mutuals and the Bureau of Marine Inspection and Navigation. C-O-Two is a registered trade mark. To be safe, specify C-O-Two.



C-O-TWO

C-O-TWO FIRE EQUIPMENT COMPANY

NEWARK 1 • NEW JERSEY

AFFILIATED WITH PYRENE MANUFACTURING COMPANY

Sales and Service in the Principal Cities of United States and Canada

Seven volunteer fire companies joined efforts on July 22 to battle a fire in the F. M. Brown Sons flour and feed mill at Sinking Spring, Pa. The fire started in a third floor cupola and extended to the roof of the main building and part of the second floor. Water was on the fire within five minutes after the alarm was sounded. About three quarters of the wheat and most of the flour and feed in the building was water-soaked before flames in the upper part of the structure were controlled. The loss was $55,000.

Fire Safety for Elementary Schools

THE U. S. Office of Education, cooperating with the NFPA and the Safety Research Institute, has issued a *Curriculum Guide to Fire Safety* to accompany fire safety instruction in the elementary grades. Chairman of the conference that prepared the pamphlet was Dr. Helen K. Mackintosh, Senior Specialist in Elementary Education for the Office of Education, and chairman of the NFPA Committee on Fire Prevention Education for Elementary Schools.

The *Curriculum Guide* is designed to help school officials teach fire-safety in elementary grades. It may be obtained from the Superintendent of Documents, Washington 25, D. C., 10c.

Answering the Non-Fire Calls

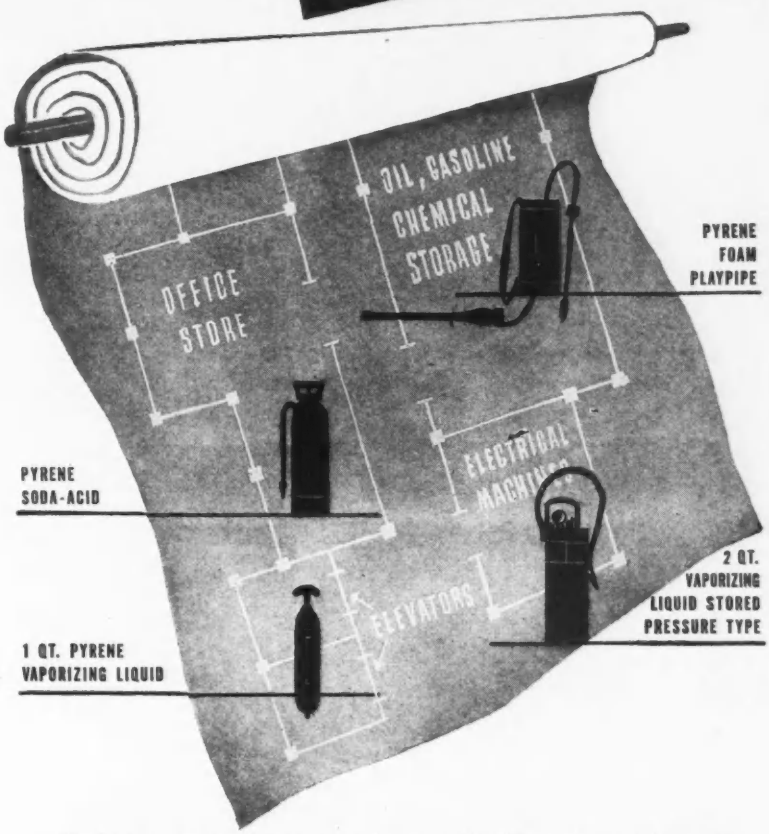
SOME fire departments have found it necessary to curtail response to non-fire calls which do not endanger personal safety. In order to save wear and tear on fire apparatus and avoid possible injuries to firemen, Boston Fire Commissioner Russell J. Codman recently issued orders that emergency calls be referred to police or other appropriate departments when there was no fire hazard involved. However, many fire departments have found the miscellaneous calls an important part of their fire department work and a help in obtaining public support.

Following is a list of miscellaneous

services rendered by the Dallas, Texas, Fire Department, as published in the annual report of the fire prevention division:

18 Drownings
2 Reported drownings
1 Attempt suicide by natural gas
1 Heart attack
2 Death from heart attack
1 Death from cancer
1 Death from bicycle and auto collision
1 Death, respiratory system collapsed
1 Death, choked on piece of steak
2 Death from natural gas
1 Death from automobile accident
1 Death from brain hemorrhage
1 Premature baby — used inhalator
1 Gallstone attack
1 Man broke his leg
1 Man injured in wreck
1 Woman fainted
1 Man hung in press
26 Treated for burns
13 Treated for cuts and bruises
1 Remove boy from roof
1 Rescue crazy woman from roof
1 Rescue boy in storm sewer
1 Rescue boy from bluff
1 Remove man from pit
6 Rescue people from high water
7 Rescue auto from high water
1 High water in house
1 Deliver flares — high water
2 Assist police
7 Child locked in bath room
14 Lady locked out of house
1 Man locked out of house
3 Get cat off roof
1 Get cat out of wall
3 Remove cat from tree
1 Remove dead cat from building
1 Get cat out of attic
1 Get snake out of attic
1 Remove possum from attic
2 Rescue dog from well
2 Get dog from under house
1 Remove bird's nest
1 Remove tree from house top
1 Get ball off roof
1 Cut top out of tree
1 Pull down tree
1 Remove tile on roof of building
50 Wash gasoline off street
10 Wash oil off street
4 Wash blood off street
1 Wash milk off street
1 Wash acid out of building
1 Pump water out of basement
1 Pump water out of Triple Underpass
11 Cover roof
10 Put light globes in church
1 Put up sign in church
6 Ammonia leak
1 Rope off plate glass window
1 Awning down
2 Put rope in flag pole
3 Unstop drain spout
5 Cut off fire plug
1 Cut off pilot light
5 Cut off gas
12 Cut off water
1 Cut off water heater
1 Frozen water pipe burst
3 Broken water pipe

BLUEPRINT for Fire Protection



As long as there is one spot in your business not amply protected from fire your whole investment is in danger. Specific protection for individual risks should be your guide in planning all-around safety for your business.

Pyrene provides an extinguisher for every type and size fire; the Vaporizing Liquid extinguisher for electric equipment, motors, flammable liquids or automotive vehicles...Soda-Acid or Water-Type for ordinary combustibles—wood, paper and textiles in stores and offices... Pyrene Foam for gas, oil, paints, dopes, solvents, and ordinary combustibles and Pyrene Foam Playpipe and Foam System for producing hundreds or thousands of gallons of foam for big fires.

If your protection is inadequate or if you plan to expand, consult your Pyrene jobber. Our engineers are at your service to give you expert advice on protecting your properties.

Pyrene Manufacturing Company
NEWARK 8 NEW JERSEY
Affiliated with the C-O-Two Fire Equipment Co.

Remember This!

The Darley Hi-Lift is a turbine driven centrifugal pump, not to be confused with jet devices, which cannot equal the Hi-Lift for VOLUME of water delivered.

Before you buy check and compare VOLUME.

Modernize Your Dept. with A HI-LIFT

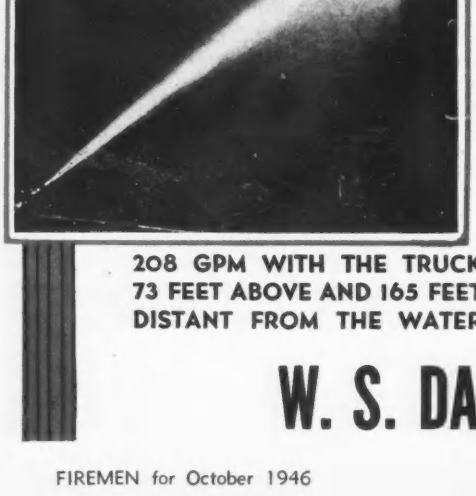
LIFTS WATER 100 FT.

$165 NOT INCLUDING SIAMESE

CHAMPION HI-LIFT SUCTION BOOSTER

30 DAY FREE TRIAL! BUY ON PROOF! MAKE YOUR OWN TESTS!

228 GALLONS PER MINUTE FROM A 57 FOOT LIFT



208 GPM WITH THE TRUCK 73 FEET ABOVE AND 165 FEET DISTANT FROM THE WATER

"... if it was not for the HI-LIFT the bridge would have gone and they could not let trains pass for weeks."

CHIEF BRIDGES, KENT, WASH.

CITY OF KENT
WASHINGTON

May 14, 1946

W. S. Darley & Co.
Chicago 12, Illinois

Gentlemen:

May 11th, we had a fire on a Milwaukee Railroad bridge, 1,000 feet long. The trestle was constructed of heavy timbers and well creosoted. The river was near, and the water 35 feet down from the bank, and fifty feet away. We tossed in our Hi-Lift Suction Booster, and pumped water for two hours steady and saved the 1,000-foot trestle and bridge across the river. The Milwaukee office at Seattle called in four other fire departments and all they could do was look at the fire fighting that was being done by our department because we were the only ones that owned a Champion Hi-Lift Suction Booster. The General Manager, the Superintendent and all the high officials of the Milwaukee Railroad were at this fire and they sure were interested to see that little pump throw so much water. If it hadn't been for the Hi-Lift the bridge would have gone and they could not let trains pass for weeks. Once more we made the Seattle papers on the front page with your Champion Hi-Lift. They replaced three pilings and the trains resumed going over the bridge. There was smoke going up in the sky for 200 feet and flames the same.

Yours truly,

Chas. Bridges, Fire Chief.

W. S. DARLEY & CO.

ESTABLISHED 1908
CHICAGO 12, ILL.

Water Sources for Rural Fires

THE foresight of a farm owner in building a water hole some years ago was a major feature in bringing a bad fire under control in Belchertown, Mass., recently. The fire burned the ell of the farm house. "Had it not been for the water readily available in the water hole," said Chief M. C. Baggs, of the Belchertown Fire Department (NFPA member), "there is no question that the house would have been totally destroyed, with a good chance that the large and valuable group of barns across the street would have burned, also." The wind was blowing in that direction at the time. Outside aid was called as a precaution, but with plenty of water in the farm water hole, the Belchertown Fire Department is reported to have had the blaze well under control before help arrived.

Fire prevention authorities have long recommended the building of water holes by towns, cities, and by private owners in the country districts, says the Massachusetts Committee on Fire Fighting in the Country, commenting on the good work done by the fire fighters. A waterhole program was started as a means of employing labor at the beginning of the depression. Hundreds of such handy, low cost water reserves were constructed in the 1930's, but the war put a stop to this activity. Many of those original water holes are now reported to have silted up, and to need cleaning. Beyond that, there is opportunity and real need for hundreds of others in unprotected rural districts, says the Committee, to protect the immense amount of property without available water. Sixty per cent of Massachusetts farm properties still have no water available except from wells or springs.

Water holes may be built on the banks of streams and in low places, within reach of buildings or woodlands.

Sometimes there is a pond or river near a group of buildings, yet it may be useless to fire apparatus on account of soft, muddy shores. A fire which burned three dwellings recently in an eastern Massachusetts town is reported to have gained headway on this account.

Farmers and officials of towns and cities where the public water system does not extend to the outskirts are urged by the committee to give serious attention to this matter of making available natural water supplies.

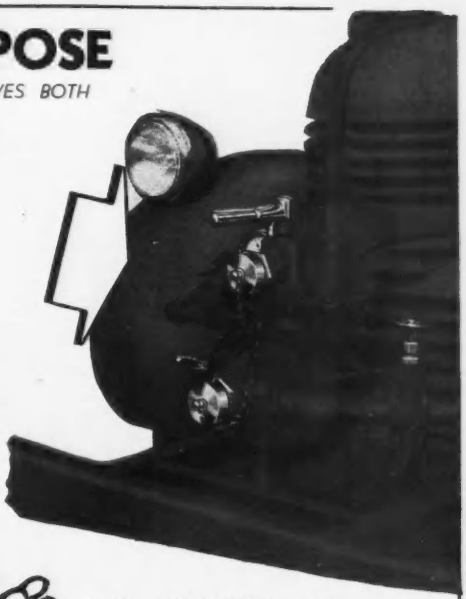
DUAL PURPOSE

HERE'S THE PUMP THAT GIVES BOTH

1-INCH SOLID STREAM

AND

FOG



It's Five Ways Better

Barton-American's Gear Driven Front Mounted Centrifugal Fire Pump can be installed in a few hours time.

A Bear For Work

Delivers 60–90 GPM at 600 lbs. pressure with FOG nozzle and 200 GPM through 2½" line with 1" SOLID STREAM nozzle . . . at engine speeds equal to only 40 mph. Front mounted construction leaves room for 1,000 feet of 2½" hose plus 500 gallon booster tank. Pumps dirty water with minimum loss of efficiency.

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PUMPS, INCORPORATED

BATTLE CREEK ◆ MICHIGAN

FIREMEN'S Rubber and Canvas CLOTHING

FROM Midwestern

This Midwestern Combination Suit, made of Vanitex, the modern waterproof fabric, is sold separately or together. The "Mackinaw Coat" is a highly serviceable garment with flexible elastic inner sleeves; adjustable collar strap, detachable wool lining, Midwestern safety snaps, two outside pockets, 6" storm flap and many other good features.

Hundreds in use All over America

Midwestern Bunker Pants with detachable wool lining, safety snap on adjustable belt, wide protecting flap, are sturdily constructed with reinforced crotch for pole sliding. Write today.

FIREMEN'S BOOTS

Regular Firemen's Boots, ¾ length, available now. We can also supply REGULAR Firemen's Boots, felt lined, reinforced instep. See your Midwestern Manufacturing Company dealer for prices or write the factory.

Mackinaw Coats are Manufactured by

MIDWESTERN MANUFACTURING CO.

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TRADE MARK

MEARL FOAM

The all-climate, dependable mechanical foam extinguisher » » » *It flows—covers—seals—extinguishes* » » » Highly effective on oil and gasoline fires—on Class A fires » » » Use with any kind of water—at any temperature—in all makes of equipment.

Write for descriptive bulletin

FIRE OUT... Stays OUT!

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FEDERAL ELECTRIC COMPANY, INC.
SIREN HEADQUARTERS

its POWER clears the way!

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Oscillating or Flashing Red Light Single or Double Tone; Regular or Coaster with electric brake

The powerful deep tone of Federal Sirens assures protection for vehicles and pedestrian, because its warning penetrates far ahead, above other traffic noises. Instant starting, constant dependability, long, trouble-free service. Get details today.

PRECISION-MACHINED ROTOR
knife-edge ports
thin, smooth blades
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heavy duty 6 or 12-volt motors

WRITE for FREE BULLETINS
Details, illustrations, prices, on this and other FEDERAL Sirens

FEDERAL ELECTRIC COMPANY, INC.
8717 SOUTH STATE ST., CHICAGO 19, ILL.

Volunteer Firemen Use Radio

SOME time ago the North Kingston, R. I., Fire Department had a frequency modulation system installed. Almost immediately it began paying huge dividends in fire fighting efficiency.

The system, it is believed, placed the department in the position of being one of the first in the East to have its equipment 100 percent radio-equipped Forest fires, plane crashes, building blazes — the radio has been employed on them all, even working in conjunction with the Rhode Island forest fire service radio system which operated on a different frequency.

With a main radio station at Wickford, the system provides two-way radio for four trucks, the chief's car, and a fifth truck at Saunderstown station seven miles to the south.

The thirty-five men have all been radio-telephone licensed by the FCC and have had extensive experience, including truck-to-truck communication at widely separated fires. This spring a square-mile forest fire in southern Rhode Island was "put out by radio," according to the men on the fire front.

North Kingston and state fire-radio trucks were placed side by side on a main highway to synchronize directions to other radio-equipped apparatus in the field, fire towers, and to a patrol plane. One North Kingston operator was at the microphone for thirty-six consecutive hours.

Fight Fire with...

StrangleAIR FOAM

and FIRE-SNUFFER NOZZLES

A coating of StrangleAIR lasts for hours on any surface, horizontal or vertical. Fire cannot withstand its smothering effect. StrangleAir is clean, white, non-toxic and will not injure paint, woodwork, furniture or carpet. Eliminates flashbacks and prevents formation of noxious fumes.

FIRE-SNUFFER NOZZLES

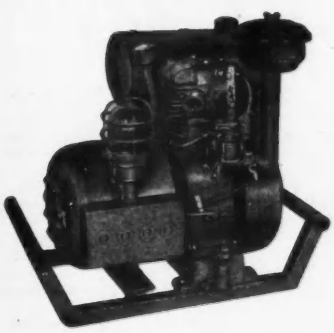
are specially designed for fast effective action with foam. Manufactured in standard sizes from 2½ GPM to 250 GPM and available through fire appliance supply houses.

For full information, request Illustrated Bulletin 65

StrangleAIR FOAM

AMERICAN DIE & TOOL CO., INC.

EAST READING, PA.



"U.S." ELECTRIC PLANTS

These rugged 1,500 watt units were designed to fire department specifications — built to meet every need. Dependable, quick-starting, 4-cycle engine. Positive lubrication. Automatic voltage regulation. No fussing to mix gasoline and oil. Compact — an easy load for two men.

Larger and smaller sizes are also available Write for information

UNITED STATES MOTORS CORP.

24 NEBRASKA ST. OSHKOSH, WIS.

Firemen's Training

Connecticut. Education officials conducting the Fifth Annual Connecticut Fire College confer at the University of

Connecticut, Storrs, August 26. L. to r.: W. A. Ross, consultant with the U. S. Office of Education and Chairman of the NFPA Committee on Firemen's Training; Coston C. Crouse, director of Public Service Training; Chief John S. Pachl, firemen's training consultant; and Richard W. Howes of the State Department of Education.

Nevada. Capt. James Owens, Coordinator of Fire Protection for Lockheed Aircraft Corporation, has been employed by the State Board for Vocational Education as itinerant instructor for twenty-five paid and volunteer departments.

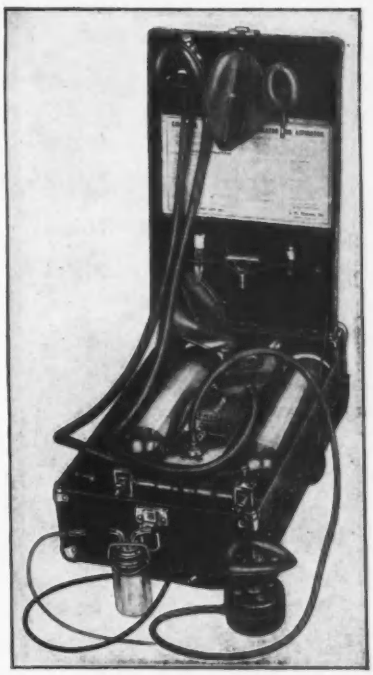
New Mexico. The State Firemen's Association, in their meeting held at Raton last June, elected the following officers: president, Chief N. C. Haynes, Camp Luna, Las Vegas; vice-president, Chief W. D. Moore, Raton; vice-president, Chief Bill Bass, Estancia; vice-president, Chief F. L. Prue, Roy; and secretary-treasurer, T. A. Rosenwald, Albuquerque. Carlsbad was selected for the 1947 fire school.

Oklahoma. Chief R. J. Douglas, of the NFPA Committee on Firemen's Training and wartime Fire Marshal of the Beech Aircraft Corporation, has returned to Oklahoma A & M College, Stillwater. According to present plans, Professor Douglas will direct the College's course in fire service training, now expanded from two to four years.

The course is conducted in cooperation with the Stillwater Fire Department under Chief Everett Hudiberg and is open both to GI's and other persons interested in a fire service career.

Oregon. Everett Runkle, recently released from the Army where he held the rank of lieutenant-colonel, recently accepted appointment as Fire Department Drillmaster for the State Department of Vocational Education.

When Seconds Count In Saving Human Life be sure you have an



EMERSON RESUSCITATOR

Leading fire departments throughout the country have from actual experience with serious cases given the Emerson resuscitator, inhalator, and aspirator the reputation of being America's finest lifesaving instrument.

Your men and community are entitled to this protection. Write for literature or a demonstration.

J. H. EMERSON CO.

24 Cottage Park Ave., Cambridge, Mass.

Representatives in Principal Cities

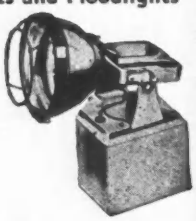
MASTER★LIGHTS FOR EVERY NEED

The best in colored oscillating lights for your motor equipment

WIG-WAG
Warns Both Sides of Street

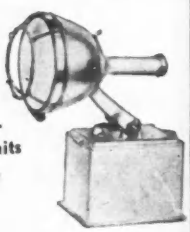
Featherweight, Mile-Range, Rechargeable Hand Searchlights and Floodlights

CHIEFTAIN
Uses Small Rechargeable Battery
Mile Range



MINUTEMAN
Emergency Floodlight for Theatres, Restaurants, etc.

SUPER-6
Dry and Rechargeable Units
¾ Mile Range



ROOFMASTER
Searchlight 360° for Officers Cars

TNT
Hand and Red Warning Light
Uses 2 No. 6 Dry Cells

Write for Emergency Lighting Bulletin

CARPENTER MFG. CO.

168 MASTER★LIGHT★BLDG.
BOSTON 45, MASS.

Fighting a Factory Fire

Continued from page 7

up by automatic sprinklers or hose streams. Windows near the angle of two buildings, one of which is on fire, are a weak point which needs defending. Even if there are no good fire walls, sprinklers well supplied with water can do much in retarding spread of fire into adjoining areas.

(5) Effective fire fighting requires some preparation in advance. Plants and fire departments likely to be called to their aid should make advance plans of operation in case of fire so that equipment will be used with maximum effectiveness.

Rope Testing and Inspection

Continued from page 13

It is important to determine something about the internal condition of the rope. Untwist the rope at intervals and examine the condition of the strands. If they are clean and bright and if there are no cuts or abrasions, the rope is in good condition. If the strands are dull or there are indications of powdered fiber, the rope has been abused in use or has been in service too long. It is then advised to discard the rope or to use it with an increased safety factor. In other words, lift a lighter load than is normal practice with that size rope. Normal rope safety factors are five-to-one, but it is good practice to increase the safety factor with all used rope.

It has been suggested that fire departments might find it advantageous to employ newly available nylon rope for life lines. This rope is not subject to water damage. It has nearly twice the tensile strength of good manila and should remain serviceable for a much longer time.

Volunteers Sponsor Soap Box Derby Entrant

ONE of the contestants in Cleveland's annual soap box derby was Paul Backowski, who was sponsored by the Newburgh Heights Volunteer Fire Department. In the elimination series last summer, the firemen's favorite came in fourth out of three hundred entries.

Capt. John J. Vondriska, Jr., president of the 23-man company, reported the item. The Newburgh Heights department, a member of the NFPA Volunteer Fire Company Section, is located just outside Cleveland, Ohio.

National Fire Protection Association, International

Associate Membership

VOLUNTEER FIRE COMPANY SECTION ($10 annual dues) Eligible:

(1) all bona fide volunteer fire organizations in any community.

(2) all fire departments and companies in communities of less than 25,000 population.

(3) all industrial fire brigades.

Member volunteer fire companies receive ten copies of FIREMEN magazine each month, mailed to the homes of individual firemen. Beyond the ten, additional copies of FIREMEN cost $1 per year.

Volunteer Fire Company Section members, receive at their headquarters, one copy of all publications sent to NFPA associate members.

ASSOCIATE MEMBERSHIP ($10 annual dues) Eligible: Individual fire department officers, firemen, and others interested in fire safety. NFPA associate members in the fire service receive: one copy of FIREMEN magazine monthly, the NFPA **Quarterly**, the monthly **News Letter**, technical standards, popular bulletins and posters.

All associate members have one vote in Association affairs.

New members, October 1946:

UNITED STATES

La Moille Fire Protection District, La Moille, Ill.
Jeanerette Fire Dept., Jeanerette, La.
Whitinsville Fire Co., Whittinsville, Mass.
Whitehall Fire Dept., Whitehall, Mich.
Resolute Hook & Ladder Co., No. 1, Dobbs Ferry, N. Y.
West Deer Independent Volunteer Fire Co., No. 2 Cheswick, Pa.

CANADA

Simonds Fire District No. 1, East St. John, N. B.
Radville Volunteer Fire Dept., Radville, Sask.

TRADE MARK

GAMEWELL

REG. U.S. PAT. OFF.

The FIRE ALARM FACTOR

The Standards recommended by the National Fire Protection Association comprise the generally accepted yardstick for measuring the adequacy of the municipal fire defenses. Section 206-10 of the Standards relative to proper fire alarm box distribution is quoted below.

"Boxes shall be located so as to suitably protect the city or town."

"Note: In general it is considered that:

- A box should be plainly visible from the main entrance of any building in congested districts.
- In mercantile or manufacturing districts it should not be necessary to traverse more than one block *nor more than 300 feet to reach a box.*

- In closely built residential districts this distance should not exceed *one block or 500 feet.*
- In other residential districts this distance should not exceed 3 blocks or 1000 feet along or toward the main artery of travel."

Less adequate box distribution entails delayed alarms and excessive fire losses. YOU, *as a citizen, have a right to urge the municipal authorities to provide adequately for the public safety.*

Protect LIFE—HOME—BUSINESS and INCOME

Install A FIRE ALARM BOX AT EVERY FIRE HAZARD

Write for our latest booklet entitled "It Can Happen Here"

THE GAMEWELL COMPANY

NEWTON UPPER FALLS 64, MASSACHUSETTS

In Canada: Northern Electric Company, Limited, Montreal

CAIRNS

OUTFITTERS TO FIREMEN
SINCE 1836

HELMETS

IN LEATHER, ALUMINUM OR
FLINT-FLEX

TURN-OUT CLOTHING BADGES
SHIRTS CAPS BELTS
RUBBER COATS RUBBER BOOTS

LOOSE-LEAF
FIRE RECORD BOOKS
DEPARTMENT RECORD FORMS

Write for Catalog 131

CAIRNS & BROTHER
444 LAFAYETTE STREET, NEW YORK 3

CIRCUL-AIR
FIRE HOSE DRYER

- Is easier to use
- Saves drying time
- Reduces hose stretch
- Prevents mildew and rot
- Improves building design
- Air-conditions as it dries

THE CIRCUL-AIR CORPORATION
575 East Milwaukee Street
DETROIT 2 ✧ MICHIGAN

MANUFACTURERS' ANNOUNCEMENTS

New Fire Fighter For Smaller Airports

A new type of fire extinguishing unit specifically designed to furnish highly effective crash and general operations fire protection for airports whose activities and revenue do not permit maintenance of large crash fire apparatus has been introduced by Cardox Corporation, of Chicago. The unit is also well suited to serve as auxiliary protection at large metropolitan airports.

The new unit has a capacity of 750 pounds of low pressure liquid carbon di-

oxide and 32 gallons of mechanical foam solution. Its two specially engineered, long-range carbon dioxide nozzles, each with 100 feet of 7/8 inch hose, have a combined discharge rate of 400 pounds of carbon dioxide per minute. A foam gun, on a 100-foot, 5/8 inch hose line has a discharge rate of 18 gallons per minute, with pressure supplied by the carbon dioxide.

The unit is a compact four wheel trailer, which, according to the manufacturer, exhibits excellent stability even when hauled at high speed. Low pressure liquid carbon dioxide is stored in the trailer in a single insulated, refrigerated pressure vessel at a controlled temperature of approximately 0°F. and 300 pounds per square inch. At this temperature the liquid carbon dioxide yields 47% CO_2 "snow" (finely divided particles of dry ice) when released. This high yield of CO_2 snow provides increased cooling effect and effective projection by the patented Cardox "Snow-Separation" nozzles. By concentrating the CO_2 snow in one portion of the discharge, it is said that the snow's dense mass can be directed into the heart of the fire through relatively great distances in the presence of strong outdoor air currents. Under conditions closely simulating actual crash fires this unit has successfully extinguished fires involving approximately 200 gallons of gasoline burning over a wide area on two or more levels. Refilling of the Cardox fire trailer is by means of Cardox transport trucks, with the liquid carbon dioxide pumped into the unit from the truck. The fire trailer is now available in many, but not all, sections of the country.

Scott Aviation Publishes Booklet

Scott Aviation Corporation has published a booklet captioned "We Back Scott Air-Pak." This book gives the history and details as to how the Scott Air-Pak came into being. But further than that, it gives a concise history of the background of the Scott Aviation Corporation and its development from the time it was organized in 1932 up to the spring of 1946. A copy of this interesting brochure may be had by writing to the Scott Aviation Corporation, Safety Equipment Division, Lancaster, N. Y.

Carpenter Asks Help in Battery Shortage

On account of material shortages which are seriously obstructing battery production, Carpenter Manufacturing Company asks users of "Masterlights" to return any and all worn-out small "Masterlight" rechargeable batteries with good cases. Shipment should be made by Express collect, to Carpenter Manufacturing Company Battery Factory, 59 Broadway, Providence, Rhode Island. This material will enable them to continue prompt service to fire departments and other emergency organizations.

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When you write to advertisers, please mention FIREMEN

FOR ALL TYPES OF FIRES

Experience shows the FMC High-Pressure Fog Fire Fighter is ideal for fighting any type fire.

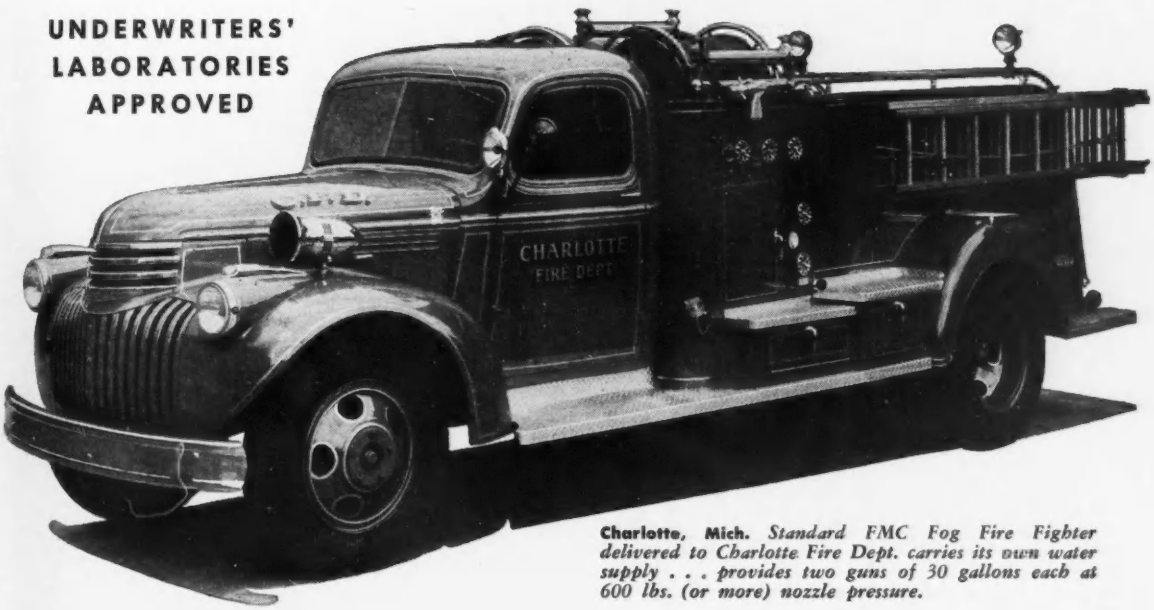
Here's why: FMC equipment is *complete,* has everything you need—it travels fast, carries its own water supply—you arrive at the fire ready to work, without delay.

The FMC unit is a complete package, fully backed by the manufacturer. You get the famous patented FMC fog fire gun, the special high-pressure fire pump, the Bean never-fail pump drive, the patented Bean coupling, and extra-heavy-duty high-pressure hose.

Investigate! Write today for complete information.

This house-and-garage type fire in full flame was extinguished with 25 gallons of water at 700 lbs. pressure with the FMC High-Pressure Fog Fire Fighter. *Insert:* This oil fire (surface measuring 18 x 32 feet) was extinguished with only 6 gallons of water from the same FMC unit.

UNDERWRITERS' LABORATORIES APPROVED



Charlotte, Mich. *Standard FMC Fog Fire Fighter delivered to Charlotte Fire Dept. carries its own water supply . . . provides two guns of 30 gallons each at 600 lbs. (or more) nozzle pressure.*

FMC *Original* HIGH-PRESSURE FOG FIRE FIGHTER

CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

FOOD MACHINERY CORPORATION

JOHN BEAN MFG. CO., 726 HAZEL ST., LANSING 4, MICH. • BEAN-CUTLER DIVISION, 426 JULIAN ST., SAN JOSE, CALIF.

BUILDERS OF BEAN HIGH-PRESSURE PUMPS FOR OVER 60 YEARS

EVERY KIDDE PORTABLE NOW HAS *Trigger-Finger Control!*

—and every one has these outstanding advantages

1. Fast in action.
2. Simple to use . . . just aim at the fire, pull the trigger.
3. Deadly to fires in flammable liquids and electrical equipment.
4. Harmless to materials and equipment. Cannot contaminate liquids, or corrode metals. Leaves no after-fire mess behind.

Trigger-controlled Kidde Portable Extinguishers have carbon dioxide capacities from 2½ to 20 pounds. Get the facts today!

Walter Kidde & Company, Inc. · 1056 Main Street, Belleville 9, New Jersey

Kidde

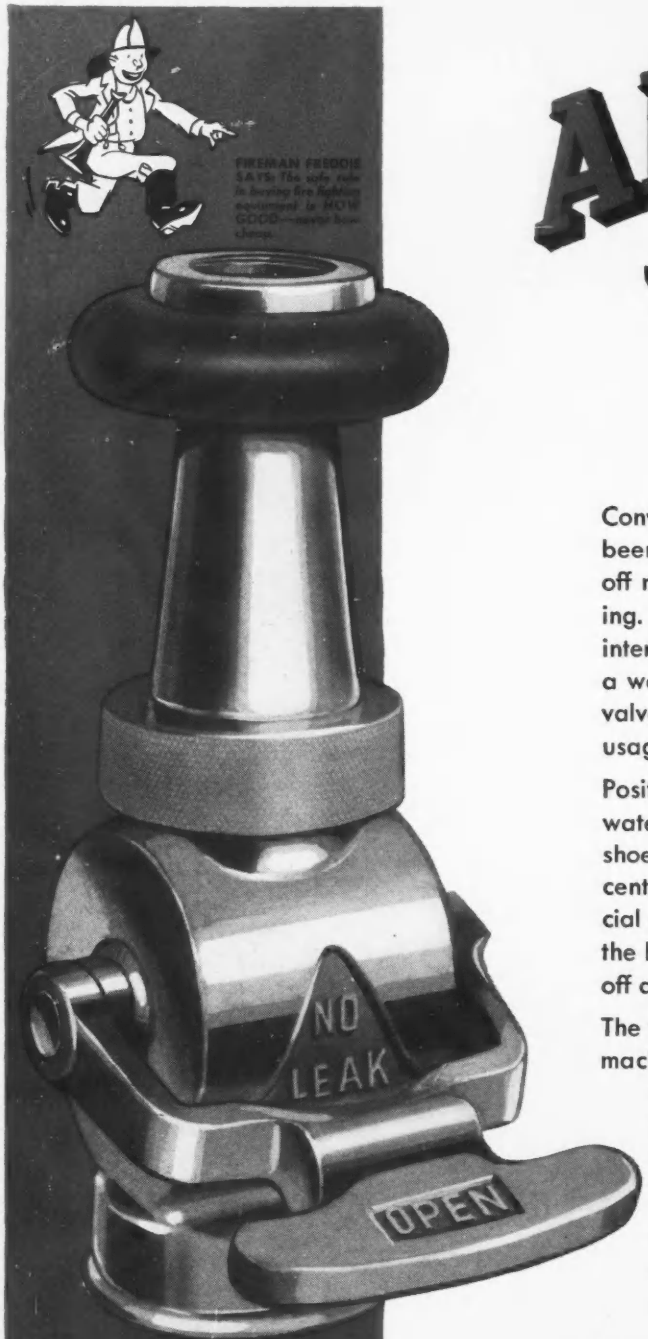
The word "Kidde" and the Kidde seal are trade-marks of Walter Kidde & Company, Inc.

THIS ADVERTISEMENT IS ONE OF A SERIES APPEARING CURRENTLY IN INDUSTRIAL PUBLICATIONS

One of 6 City Service trucks in operation at Fort Worth, Texas. As a result of their performance, 7 Buffalo Triple Combinations have been ordered for Fort Worth service.

BUFFALO
better-built
MOTOR FIRE APPARATUS

BUFFALO FIRE APPLIANCE
CORPORATION
M & T BUILDING BUFFALO 2 NEW YORK



AKRON

"NO-LEAK" SHUT-OFF NOZZLE

Conventional design and construction have been perfected in this sturdy, serviceable shut-off nozzle. Body is a single-piece bronze casting. This construction, with valve suspended internally from both ends, in combination with a water jacket formed by clearance between valve and the shut-off body permits rough usage without injury.

Positive shut-off, regardless of variations in water pressure, is provided by a special hard shoe insert on the discharge side of the valve center (a one-piece bronze casting). The special composition of the shoe segment lubricates the bearing surface assuring quick, easy shut-off action, and eliminates necessity of grinding.

The waterway of the body and valve center is machined straight and perfectly aligned to insure a smooth, solid stream. Inside positive stop retains alignment independently of handles.

The Akron "No Leak" Shut-off Nozzles are made in three sizes: 3/4", 1-1/2" and 2-1/2", with or without play pipe, and in two styles of Siamese assemblies.

AKRON BRASS MFG. COMPANY, INC.
WOOSTER, OHIO

AKRON BRASS
FIRE FIGHTING EQUIPMENT

MAGIC